

1ST AND 2ND ORDERS		PROCESSES AND PROPERTIES INDEX		3RD AND 4TH ORDERS	
C A		<p>The effect of acids and bases on the adsorption capacity of soils and of glauconite. V. I. Ponomareva, <i>Colloid J.</i> (U. S. S. R.) 6, 250-74 (1966). In chernozem, podzol and glauconite treated with acids the adsorption capacity for Al and Ba salts decreased, most in chernozem, and least in podzol. Acid-treated chernozem completely recovered its adsorption capacity after treatment with Ba(OH)₂, podzol recovered 80%, and glauconite 12-18%. A second treatment with acid decreased the adsorption capacity to the level of the first treatment. Increased adsorption capacity of soils after treatment with alkali observed by Askani (C. A. 22, 474) was the sum of (1) reversible effect of change of pH and (2) change of the exchange capacity caused by more drastic chem. changes in the adsorbent. A. A. Podgorniy</p>		15	
ASB-51A METALLURGICAL LITERATURE CLASSIFICATION					
1ST ORDER		2ND ORDER		3RD ORDER	
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z		1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100		1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100	

The equivalence of base exchange of soils. H. P. NIKOLSKII and V. J. PARANOVSKIY. *Chimisation Socialistic Agr.* (U.S.S.R.) 9, No. 4, 61-60 (1947); *Chem. Zentr.* 1948, II, 2906.—An equiv. exchange is obtained when the soil is treated with an unbuffered soln. Thus the buffer properties of the soil soln. play a role in the cation exchange of a soil. At const. pH of the buffer soln. the cations do not exchange in an equiv. ratio. The quantity of the adsorbed bases is influenced by the other bases in the buffer soln. By leaching an unsatd. soil with an unbuffered soln. of neutral salts an equiv. base exchange is effected. The pH of the soln. is lowered to an extent detd. by the nature and concn. of its cations. By satg. samples of the same soil with various cations, or with various concns. of the same cation to the same pH, various values of exchange acidity are obtained. The hydrolytic acidity is related to the unequiv. exchange of the cations used for its detn. Its nature is explained by curves showing the behavior of pH in satg. the soil with various cations, or with various concns. of the same cation. M. Hosen

CA
COMMON ELEMENTS
OPEN
METALLURGY INDEX
ASSOCIATED METALLURGICAL LITERATURE CLASSIFICATION
RESEARCH DIVISION
BIBLIOGRAPHIC DIVISION
LIBRARY OF CONGRESS

NIKOL'SKIY, B.P.; PARAMONOVA, V.I.

Theory of anion exchange. Part 1. Possible generalization of the
cation exchange theory to include anion exchange. Uch.zap.Len.un.
163:112-120 '53. (MIRA 9:6)

(Ion exchange)

NIKOL'SKIY, B.P.; PARAMONOVA, V.I., BOGATOVA, N.F.

Theory of anion exchange. Part 2. Nature of anion exchange on m-
-phenylenediamine resin. Uch.zap.Len.un. 163:121-145 '53.
(MLRA 9:6)

(Anions) (Phenylenediamine) (Ion exchange)

PPR AMONOVA, V.I.

Dir: LB2c(j)/LB4j

Potentiometric method for the determination of the ion-exchange constant. *V.I. Amonova, O. P. Shilina, and Z. A. Vasil'eva. Khimicheskaya i fizicheskaya khimiya, 1954, 42-43. U.S.S.R. Acad. Sci. Div. Chem. Sci., Engl. transl. in: A. A. Zhdanov, Shornik State 1954, 42-43.*
 The ratio of activities of H^+ ions in the equilibrium with cation-exchange resin can be determined potentiometrically. From the results, the true ion-exchange constant for the Ag^+-H^+ system was determined for different cation-exchange resins. The resins containing nuclear sulfonic groups have the constant equal to 18, since they exchange Ag^+ primarily. The other sulfonic resins give lower values for the constant; this can be attributed to the presence of a considerable number of methylene sulfonic groups. Cation exchange resins of a weak acid type give very low values for the constant (0.4); this indicates that they exchange mostly H^+ . No variation of the ion-exchange constant with the ionic strength has been observed.

A. Libackyl
Go for

6
2 MAY
2

PARAMONOVA, V. I.

The state of radionuclides in nitric acid solutions determined by the methods of ion exchange and dialysis. V. I. Paramonova and V. B. Koltychev. Zhur. Norg. Khim. 1:189 (1956). The sign of the charge and the approx. dimensions of Nb^{4+} in $NaNO_3 + HNO_3$ solutions were determined. The ionic strength of the solutions was 1-2 and acid strengths from 6.01 to 2N. The concentration of Nb^{4+} was 10^{-4} to 10^{-3} g/l. The data show that the Nb under these conditions was not in an ionic state and that the adsorption properties were not homogeneous. The finely dispersed portion of the Nb (diam. < 1-3 μ) is readily dialyzed through a cellophane membrane and does not adsorb on ionites or on the membrane. This portion is apparently in the form of neutral molecules of a nitrate complex of Nb. The portion that can be adsorbed cannot be dialyzed. The adsorption is phys. in character and does not depend on the sign of the charge of the active groups of the ionite. This portion of the Nb is apparently in the form of colloidal dispersed particles. Roytar Leach

2
(4E4S)

PARAMONOVA, V.I.

The state of zirconium in sulfuric acid and nitric acid solutions as determined by the method of ion exchange. V. I. Paramonova and A. S. Vorobetski. Zhur. Neorg. Khim. 1960-11 (1956); cf. preceding abstract. The adsorption of Zr^{4+} in concn. of 10^{-4} moles (without a carrier) from sulfate and nitrate solns. was studied on both a cationite and an anionite. Considerable adsorption on the anionite was observed in solns. of $0.001-2N H_2SO_4$ (both with and without the addition of Na_2SO_4) owing to the probable formation of sulfate anion complexes. For H_2SO_4 solns. less than $1N$, adsorption was also observed on the cationite with a maximum for $0.1N H_2SO_4$ due to the formation of hydrolyzed particles with a variable pos. charge. In nitrate solns. ($0.001-2N HNO_3$) besides neg. complexes, pos. complexes of Zr also exist. The nature of the hydrolysis effects are the same in both acids. Royce Leach

2

4E20
4E41

PM

PARAMONOVA, V. I.

78-3-6/35

AUTHOR: Paramonova, V. I.

TITLE: Use of Ion-Exchange in the Study of the State of a Substance in Solution. (Primeneniye Ionnogo Obmena k Izucheniyu Sostoyaniya Veshchestva v Rastvore.) I. Physical-chemical Bases of the Method of Investigating Complex Formation with the Aid of Absorption Curves. (I. Fiziko-Khimicheskiye Osnovy Metoda Issledovaniya Kompleksoobrazovaniya s Pomoshchyu Krivyykh Pogloshcheniya.)

PERIODICAL: Zhurnal Neorganicheskoy Khimii, 1957, Vol.II, Nr.3, pp. 523-531. (USSR)

ABSTRACT: This report was presented at the VII All-Union Conference on the chemistry of complex compounds on October 13, 1956. Ionic exchange together with the use of tracer atoms enables the form in which a substance exists in a solution under extreme dilution (e.g. 10^{-12} g per litre) to be determined qualitatively, semi-quantitatively, and quantitatively. The simultaneous

Card 1/3

78-3-6/35

Use of Ion-Exchange in the Study of the State of a Substance
in Solution. I.

use of both cation and anion exchange substances for the study of one and the same solution is especially promising. It is with this aspect of the problem that the present work deals. The principle of the method proposed is that the same solution is brought into equilibrium with both cation and anion exchange substances, the quantity of the element under investigation absorbed by each of these then being determined. It is assumed that the element under investigation does not form colloids. The treatment of the absorption curves obtained is developed and applied to three of the more simple complex-formation processes: a) the solution contains the cation of the element under investigation, M^+ and an addend A^- , which form a neutral complex compound MA ; b) the system contains a cation of a complex-forming substance M^+ (the micro-component) and an anion of the addend A^{2-} , with which the cation M^+ forms an anion complex MA^- ; c) the system contains a cation of the microcomponent M^+ and addend A^- , which

Card 2/3

PARAMONOVA, V.I.

"Investigation of the Interaction of Uranyl Salt Solutions With Sodium Hydroxide; Part 1 - Potentiometric Titration of Uranyl Salt Solutions With Sodium Hydroxide," by B. P. Nikol'skiy V. I. Paramonova, and M. D. Morachevskaya, Zhurnal Neorganicheskoy Khimii, Vol 2, No 5, May 57, pp 1194-1200

By investigating potentiometrically individual samples, the interaction of aqueous solutions of uranyl nitrate and uranyl sulfate with sodium hydroxide at different concentrations of sodium nitrate and sodium sulfate was studied. It was established that when solutions of uranyl salts interact with alkali at room temperature, an equilibrium is established after a prolonged period of time ranging from several days up to a year, time depending on the concentration of the salt and the amount of alkali which has been added.

It follows from the results of the potentiometric titrations that upon interaction of uranyl salts with sodium hydroxide at least two different sodium uranate precipitates with different contents of sodium are formed, depending on the pH. The results of a detailed investigation of the composition of these precipitates will be published in a subsequent paper. (U)

Sum. in 1451

PARAMONOVA, V.I.
PARAMONOVA, V.I.; SHEYDINA, L.D.

All-Union congress on radiochemistry. Zhur.neorg.khim. 2
no.7:1706-1708 JI '57. (MIRA 10:11)
(Leningrad--Radiochemistry)

PARAMONOVA, V. I.

807/5084

International Conference on the Neutral Use of Atomic Energy. 2d, Geneva, 1958.

Radiation effects on polymers. [In:] *Radikatsionnoye izmeneniye i radiatsionnyye yavleniya* (Reports of Soviet Scientists. V. 3.; Chemistry of Radioactive Elements and Radiation Transformations) Moscow, Atomizdat, 1959. 343 p. 8,000 copies printed. (Series: Fiz. Teor.)

Ed. (title page): A. P. Vinogradov, Akademik; Ed.: V. I. Paramonov, Tekh. Ed.: V. I. Mamal.

SCOPE: This collection of articles is intended for scientists and engineers interested in the applications of radioactive materials in science and industry.

CONTENTS: The book contains 26 separate studies concerning various aspects of the chemistry of certain radioactive elements and the processes of radiation effect on matter. These reports discuss present-day methods of processing irradiated nuclear fuel, research in the chemistry of mercury, thorium, uranium, plutonium, and americium, problems related to the sorption and burying of radioactive wastes, the radiolysis of aqueous solutions and of organic compounds, the mechanism of polymer chain scission, and the effect of radiation on natural and synthetic rubbers. V. I. Paramonov edited the references to individual investigations are mentioned by reference. Contents Table of Contents.

TABLE OF CONTENTS

Vinogradov, A. P. <i>Metallurgy and the Earth's Crust (The Geochemistry of Isotopes)</i> (Report No. 255)	3
Shvachko, V. A., M. A. Bortitskiy, and A. S. Bolotnikov. <i>Some Special Problems in the Reprocessing of Irradiated Fuel-Producing Elements of the First Atomic Electric Power Plant of the USSR</i> (Report No. 2192)	25
[The following personnel are mentioned as having taken part in this investigation: E. M. Radikov, E. P. Izrael, L. V. Uralovskiy, E. S. Tsvetkov, and V. V. Shubakov.]	
Radikov, E. M., and M. P. Vasil'yev. <i>Separation of Uranium and Plutonium from Fusion Products by Extraction with a Mixture of Methyl Ether and Carbon Tetrachloride</i> (Report No. 2216)	34
Vinogradov, V. M. <i>Distribution of Precipitation Elements in the Process of the Fiber Extraction of Uranium and Plutonium</i> (Report No. 2206)	41
Pravobor, V. I., M. P. Shvachko, and V. M. Vinogradov. <i>Method of Separating Irradiated Uranium</i> (Report No. 2217)	49
[The authors thank L. E. Kuznetsov and A. S. Bolotnikov.]	
Radikov, E. M., V. I. Izrael, G. V. Korotkiy, E. M. Radikov, E. I. Kuznetsov, E. P. Izrael, and G. P. Shvachko. <i>Separation of Precipitation Elements</i> (Report No. 2219)	57
[The authors thank A. S. Bolotnikov, Corresponding Member of USSR.]	
Pravobor, V. I., M. P. Shvachko, and V. M. Vinogradov. <i>Separation of Individual Rare Earth Elements</i> (Report No. 2218)	75
Fil'm'skiy, B. P., and V. I. Paramonov. <i>Using Ion-Exchange to Study the Rate of Radioactive Substances in Solution</i> (Report No. 2204)	89
Chernov, L. I., V. A. Golovinskiy, G. V. Korotkiy, E. I. Kuznetsov, and V. P. Artyur. <i>Contribution to the Problem of the Structure of the Complex Compounds of Uranium</i> (Report No. 2198)	98
[The individual studies of the following researchers have been included in the last part of this paper: Ye. I. Fraydant, L. E. Shubakov, Z. V. Artyur, and L. I. Shubakov.]	
Chernov, L. I., V. A. Golovinskiy, and A. E. Melnik. <i>Complex Carbonate Compounds of Uranium</i> (Report No. 2196)	126
[A. E. Melnik is mentioned for his part in this study.]	

NIKOL'SKIY, B.P.; PARAMONOVA, V.I.; V'YUGINA, A.F.

Separation of uranium and thorium on anionites of the weak
base type. Trudy Radiev.inst. AN SSSR. 8:177-188 '58.

(MIRA 12:2)

(Uranium)

(Thorium)

(Anions)

PARAMONOVA, V.I.; BARTENEV, S.A.

Ion exchange of the behavior of substances in a solution. Part 3:
Study of the existing forms of niobium in the sulfuric and hydro-
chloric acid solution. Zhur. neorg. khim. 3 no.1:74-81 Ja '58.
(Niobium) (Solutions (Chemistry)) (MIRA 11:3)

PARAMONOVA, V. I.

AUTHORS: Paramonova, V. I., Mosevich, A. N., Subbotina, A. I. 78-1-16/43

TITLE: The Application of Ion Exchange in the Investigation of the State of the Substance in Solution (Primeneniye ionnogo obmena k izucheniyu sostoyaniya veshchestva v rastvore).
IV. The Investigation of the Complex-Formation of Yttrium With Lactic Acid by Means of the Method of "Absorption-Curves" (IV. Izucheniye kompleksobrazovaniya ittriya s molochnoy kislotoy metodom "krivyykh pogloshchemiya").

PERIODICAL: Zhurnal Neorganicheskoy Khimii, 1958, Vol. 3, Nr 1, pp. 88-94 (USSR).

ABSTRACT: From the analogy with complex compounds of the trivalent ions of the rare earths with lactic acid: MeA_3 (A = lactic acid anion) (reference 1) a similar yttrium-compound with lactic acid. YA_3 can be supposed. This was confirmed by the tests carried out by the authors, because yttrium is not absorbed by anionite in solutions with lactate-ions (with $pH < 5$), viz. it does not form any negative complexes. Yet intercomplexes YA_2^+ and YA^{2+} may possibly still exist in the solution besides the Y^{3+} -ions and the neutral complex YA_3^0 .

Card 1/4

The Application of Ion Exchange in the Investigation
of the State of the Substance in Solution.

78-1-16/43

IV. The Investigation of the Complex-Formation of Yttrium With
Lactic Acid by Means of the Method of "Absorption-Curves".

The authors therefore watched the process of complex-formation of yttrium with lactic acid within a sufficiently wide range of concentration of the lactic acid anion by means of the method referred to in the title (reference 2,3). The static method (reference 3) was applied here in 3 test series. I - With a constant concentration of lactic acid. II - With pH-values of approximately the same equilibrium. With the series I) and II) cationite KU-2 was used. III - Conditions similar to those of the 1st series, however, with cationite SBS. The isotope Y^{90} was used in the series I) and II), - Y^{91} in the series III). In view of keeping constant the ionic strength ($\approx 0,2$) neutral salt ($NaCl$ or NH_4Cl) was added, further an impulse amount (impul'snoye kolichestvo) of yttrium. The following conclusions can be drawn from the test results (figures 1, 2, tables 1, 2, 4) : 1) if the results obtained are expressed in form of the relative absorption g , the results on both cationites (KU-2 and SBS) can be satisfactorily plotted on the dependence-curve g on c_A (that of $lg c_A$). This indicates that if the mechanism of absorption of the investigated ion is a mechanism of

Card 2/4

The Application of Ion Exchange in the Investigation
of the State of the Substance in Solution.
IV. The Investigation of the Complex-Formation of Yttrium With
Lactic Acid by Means of the Method of "Absorption-Curves".

78-1-16/43

exchange, and no specific absorption takes place, the δ_+ - values do not depend on the nature of the cationite. 2) It is unimportant which salt is added for the maintenance of the ionic strength (0,2) (NaCl under NH_4Cl); the δ_+ -values were equal under corresponding conditions and were easily placed on the curve of dependence of δ_+ on c_A . 3) It resulted from the tests that the δ_+ -values depend clearly on c_A (or on $\lg c_A$) and not on the pH of the equilibrated solution (table 1, 2). 4) The calculations of the dependence of $\lg \frac{\delta_+}{1-\delta_+}$ of $\lg c_A$ showed that the complex cation YA^{2+} could not be proved in the tests carried out by the authors. 5) With medium concentration of the addendum the dominating form was YA_2^+ (of $c_A = 0,001$ n up to $c_A = 0,04$ n). 6) The constant of inconstancy of YA_2^+ computed on the strength of the test results according to the formula:

Card 3/4

The Application of Ion Exchange in the Investigation
of the State of the Substance in Solution.

78-1-16/43

IV. The Investigation of the Complex-Formation of Yttrium With
Lactic Acid by Means of the Method of "Absorption-Curves".

$K_H = \frac{K_+ \cdot c^2 A}{1 - K_+}$, is equal to $(1,1 \pm 0,4) \cdot 10^{-5}$. 7) With a surplus

of the addendum, when the dominating yttrium-form in the solution is YA_3^0 , the cationite shows a small absorption which is due to a graded dissociation $YA_2^0 \rightleftharpoons YA_2^+ + A^-$.

There are 4 figures, 2 tables, and 3 Slavic references.

SUBMITTED: June 18, 1957.

AVAILABLE: Library of Congress.

Card 4/4

PARAMONOVA, V. I.

78-1-38/43

AUTHOR:

Paramonova, V. I.

TITLE:

Application of Ion Exchange to the Investigation of the State of Substances in the Solution (Primeneniye ionnogo obmena k izucheniyu sostoyaniya veshchestva v rastvore).
II. Experimental Realization of the Method of Absorption Curves (Eksperimental'noye osushchestvleniye metoda krivyykh pogloshcheniya).

PERIODICAL:

Zhurnal Neorganicheskoy Khimii, 1958, Vol. 3, Nr 1, pp. 212-214 (USSR).

ABSTRACT:

The following conditions must be observed for carrying out the method referred to in the sub-title (reference 1). 1) Micro concentration of the element to be investigated in the solution. 2) Constant higher concentration of the 2nd ion which should perform the exchange with the investigated element, than that of the first one. 3) The ionites should have a constant exchangeability. 4) No competing process of complex-formation especially no hydrolysis must take place in the solutions. There are two ways for solving the problem referred to in the sub-title. I - The dynamical way, II - The Static way. Ad 1) Weighed out quantities (0,5 to 1 g) of cationite are placed in a series of small columns, or of anionite, respectively in another

Card 1/4

Application of Ion Exchange to the Investigation of
the State of Substances in the Solution.

II - Experimental Realization of the Method of Absorption Curves.

78-1-38/43

series. A series of initial solutions with different quantities of the addendum is divided in 2 portions each. One of them is let through the anionite column and the other through the cationite column until the two ionites attain an equilibrium with the initial solution. Subsequently the quantity of the investigated element which was absorbed by weighed out quantities of ionite, is determined. Consequently the quantities of the investigated element which were absorbed by cationite or anionite in dependence on the concentration of the addendum are obtained with each test. The obtained results are expressed as relative absorption γ_+ or γ_- in which case γ_+ expresses the share of the investigated element in a form which is absorbed by the cationite and γ_- the same absorbed by anionite γ_+ and γ_- are computed according to the formulae:

$$= \frac{G_M}{G_M^0} (1) \text{ and } = \frac{G_M}{G_M^0} (2), \text{ in which case } G_M \text{ and } G_{MA} \text{ denote the}$$

denote the quantities of the investigated element which were absorbed by 1 g of the cationite from the solution to which addendum was

Card 2/4

Application of Ion Exchange to the Investigation of
the State of Substances in the Solution.

II - Experimental Realization of the Method of Absorption Curves.

78-1-38/43

added, G_M^0 denotes the same without addendum. G_{MA}^0 , the quantity of the investigated element, absorbed by the weighed out quantity of addendum from a solution to which such a surplus of addendum was added that further additions do not further increase the absorption of the investigated element. Ad II) The static way. The test is carried out in 2 series of flasks which contain solutions as previously. Weighed out (0,5 to 0,25 g) quantities of both anionite and cationite are put into it, whereupon the activities of the solutions being in equilibrium are measured and the absorbed quantities of the central ion are determined from the differences against the activities of the initial solution. After various computations the author obtains the following equations:

$$\delta_+ = \frac{(100 - c) \cdot c^0}{(100 - c^0) \cdot c} \quad (8) \text{ for cationite and } \delta_- = \frac{(100 - c) \cdot c^0}{(100 - c^0) \cdot c} (10)$$

Card 3/4

for anionite. Assuming that the total amount of the investigated element in the initial solution amounts to 100%, then a

Application of Ion Exchange to the Investigation
of the State of Substances in the Solution.

78-1-38/43

II - Experimental Realization of the Method of Absorption Curves.

$G_M = 100 - c$ (3), and with the solution without addition of
addendum $G_M^0 = 100 - c^0$ in which case the total concentration
being equilibrium of the investigated element in a solution
with an addition of addendum is designated as c .

SUBMITTED: June 18, 1957.

AVAILABLE: Library of Congress.

Card 4/4

PARAMONOVA, V. I.

AUTHORS: Paramonova, V. I. , Sergeyev, A. N.

72-1-39/43

TITLE: Application of the Ion Exchange in the Study of the State of Substances in the Solution (Primeneniye ionnogo obmena k izucheniyu sostoyaniya veshchestva v rastvore)
V. Investigation on the Process of the Formation of Complexes of Zirconium With Nitric Acid (V. Izucheniye protsessy kompleksobrazovaniya tsirkoniya s azotnoy kislotoy)

PERIODICAL: Zhurnal Neorganicheskoy Khimii, 1958, Vol. 3, Nr 1, pp.215-221 (USSR)

ABSTRACT: No essential conclusions could be drawn from the report by the author (with A. S. Voyevodskiy, reference 1) on the subject referred to in the sub-title, since 2 complexes were formed simultaneously: both by a process of hydrolysis and nitration. The present report continues the afore-mentioned investigation and deals with the study of micro quantities of Zr^{95} . Conditions for the beginning of the hydrolysis of Zr had to be determined and tests had to be carried out for the purpose of studying the nitrate-like complex-formation of Zr

Card 1/5

78-1-39/43

Application of the Ion Exchange in the Study of the State of Substances in the Solution. V. Investigation on the Process of the Formation of Complexes of Zirconium With Nitric Acid

under such conditions which the hydrolysis does not influence the latter process. The authors applied the static method of investigation (by means of individually weighed out quantities) and carried out 2 test series. These series are described following an experimental part. I) Absorption of Zr-95 from solutions of perchloric acid and sodium perchlorate. A mono-functional polystyrene-cationite KU-2 of the type of a strong acid and an anionite EDE-10 of the type of a medium strong base was used as ionite in both series. The authors used the radioactive indicator Zr⁹⁵ in the form of a nitrate. The results of the Zr-95-absorption with cationite KU-2 in a sodium-form and with EDE-10 in a ClO₄-form are shown in figure 1 and table 1. The observation took 3 days. Figure 1 shows the dependence of the percentage of absorption of Zr-95 on the composition of the solution. The curve A - % of the absorption by cationic starting from the initial activity; the curve B - the same by the anionite. A maximum and constant cationic absorption takes place within the range 2 - 1,2 n of perchloric acid. No anionic absorption takes place on these

Card 2/5

73-1-39/43

Application of the Ion Exchange in the Study of the State of Substances in the Solution. V. Investigation on the Process of the Formation of Complexes of Zirconium With Nitric Acid

conditions. Zirconium is therefore present here as unhydrolyzed cation Zr^{4+} (in accordance with reference 6). Anionic absorption becomes apparent with 0,5 n $HClO_4$ + 1,5 n $NaClO_4$. Assuming that perchloric acid forms no complexes with Zr^{4+} , it can be stated that the cationic absorption is reduced by means of hydrolysis. Therefore hydrolysis with 2 n $HClO_4$ + 2 n HNO_3 , mixed in various ratios, must be not feared.

II.) Zr-absorption from solutions of perchloric-and nitric acid. The results obtained with cationite KU-2 in hydrogen-form and with EDE-10 in NO_3 -forms are shown in figure 2 and 3, as well as in table 2. The equilibrium between the solutions and ionites was attained after 42 hours. The results of absorption in relative units γ_+ and γ_- , in which case γ_+ represents the part absorbed by the cationite, whereas γ_- represents the part absorbed by the anionite (reference 7) are shown in figure 3 and table 2. In figure 2 it is shown that an important cationic absorption (45 to

Card 3/5

78-1-39/43

Application of the Ion Exchange in the Study of the State of Substances in the Solution. V. Investigation on the Process of the Formation of Complexes of Zirconium With Nitric Acid

70 % of the initial activity) takes place within the whole investigated range. The anionic absorption was very small. The above conversion of the obtained results into values of relative absorption (γ_+ , γ_- and γ) made it possible to find out that on the conditions of 2 n HClO₄ up to 1,4 n HNO₃ + 0,6 n ClO₄ Zr^{4+} and $Zr(NO_3)_2^{2+}$ exist. Complex $Zr(NO_3)_3^+$ and $Zr(NO_3)_3^+$ were not found. On the strength of the results obtained, K_H was computed for the complex $Zr(NO_3)_2^+$ and its value = $0,60 \pm 0,14$ was determined, which corresponds satisfactorily to the experimental results obtained by means of extraction (reference 11). (K_H - constant of inconstancy). There are 4 figures, 3 tables, and 11 references, 5 of which are Slavic.

SUBMITTED: July 8, 1957

Card 4/5

78-1-39/43

Application of the Ion Exchange in the Study of the State of Substances
in the Solution . V. Investigation on the Process of the Formation of Com-
plexes of Zirconium With Nitric Acid

AVAILABLE: Library of Congress

Card 5/5

SOV/78-3-9-11/38

AUTHORS: Paramonova, V. I., Morachevskaya, M. D., Nikol'skiy B. P.

TITLE: ~~II. Determination of the Composition of the Precipitations Formed in~~
the Interaction of the Solutions of Uranyl Salts With Sodium
Hydroxide (II. Opredeleeniye sostava osadkov, obrazuyushchikhsya
pri vzaimodeystvii rastvorov soley uranila s gidrookis'yu
natriya)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1958, Vol 3, Nr 9, pp 2067-2074
(USSR)

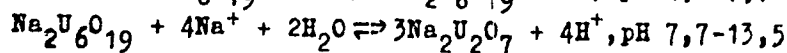
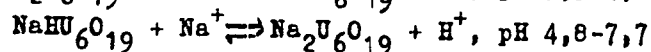
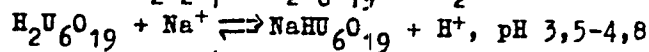
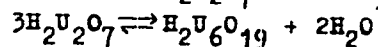
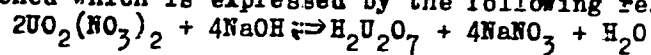
ABSTRACT: In the interaction of the solutions of uranyl salts with sodium
hydroxide the equilibrium in the system is only very slowly
obtained at temperatures of 17-20°C. The composition of the
deposits formed in the system $\text{UO}_2(\text{NO}_3)_2\text{-NaOH-NaNO}_3\text{-H}_2\text{O}$ depends
on the hydrogen concentrations and on the concentration of
sodium in the solution. The molar relation between sodium and
uranium in the deposits formed at pH = 3,5 - 4,8 is 0,12 - 0,15.
If the pH-value of the solution increases from 4,8 to 4,9, the
relation between sodium and uranium increases from 0,15 to
0,30. In the pH-range of 4,9 - 7,7 the sodium content in the

Card 1/3

SOV/78-3-9-11/38

II. Determination of the Composition of the Deposits Formed in the Interaction of the Solutions of Uranyl Salts With Sodium Hydroxide

deposits varies only insignificantly. If the pH-value of the solution increases to 11, the relation between sodium and uranium increases to 1 and stays constant up to pH = 13,5. The potentiometric titration of the solutions of uranyl salts with soda lye shows a slow formation of deposits, and the results of the analysis of the deposits indicate that the uranic acid formed in the solution polymerizes in molecules with 6 atoms of uranium. Between the solid phase and the solution an equilibrium is reached which is expressed by the following reactions:



There are 3 figures, 2 tables, and 10 references, 3 of which are Soviet.

Card 2/3

PARAMONOVA, V. I.

AUTHORS: Paramonova, V. I., Bartenev, S. A.

78-1-14/43

TITLE: The Application of Ion-Exchange in the Study of the State of the Substance in Solution (Primeneniye ionnogo obmena k izucheniyu sostoyaniya veshchestva v rastvore).
III. The Study of the Forms of Existence of Niobium in Solutions of Both Sulphuric- and Perchloric Acid (Izucheniye form sushchestvovaniya niobiya v rastvorakh sernoy i khlornoy kisloty).

PERIODICAL: Zhurnal Neorganicheskoy Khimii, 1958, Vol. 13, Nr 1, pp. 74-81 (USSR).

ABSTRACT: The state of micro quantities of niobium, as referred to in the title and sub-title, was investigated in the present report. A brief survey of literature is given (references 1 to 7). It hence results that the conditions of acidity of the solution on which a non-hydrolysed niobium-cation Nb^{95} is found, are unknown. The hydrolysis could not be completely excluded here, but, due to a high acidity of the solution ($\approx 2n$), it was greatly restricted. It was impossible to operate with higher acidity since sulphuric acid would form EDE-lo complexes with the anionites. Since perchloric acid with many elements forms no complexes, it was selected as salt-background

Card 1/4

The Application of Ion-Exchange in the Study of the
State of the Substance in Solution.

78-1-14/43

III. The Study of the Forms of Existence of Niobium in Solutions
of Both Sulphuric- and Perchloric Acid.

(solevoy fon). Complexes of sulphuric acid are rather constant.
 H_2SO_4 is complicated as addendum since its dissociation can have
two stages and since its capacity of coordination can be variable.
It dissociates with an acidity of 2n under formation of approxima-
tely 90% HSO_4^- ions and about 10% SO_4^{2-} ions (reference 8). The
authors commonly choiced the method of the "absorption curves"
(reference 9). A voluminous experimental chapter follows. Radioac-
tive niobium-isotope Nb^{95} was used in a half-life radioactive pe-
riod of 37 days in a concentration of 10^{-12} mol/l. Resin KU-2 -
an ionite of the type of a strong acid, served as cationite. The
equilibrium was attained after 48 hours. The absorption of niobium
by means of resin was judged from the change of activity of the ini-
tial solution. Results of the investigation of several solutions are
given in table 1 and 2. The test results are represented as absolute
and relative absorption G and g' (tables 1 and 2, figures 1 and 2).

Card 2/4

$G = \frac{a - c}{a} 100$, in which case a is the initial activity of the solu-

The Application of Ion-Exchange in the Study of the State
of the Substance in Solution.

78-1-14/43

III. The Study of the Forms of Existence of Niobium in Solutions
of Both Sulphuric- and Perchloric Acid.

tion, c - its equilibrated activity, $f = \frac{G}{G^0}$, f is the relative absorption of the investigated element, G - the absolute percentage of same under the given conditions, G^0 - the maximum percentage of absorption of the same, if no addendum is present. For the anionic absorption (f_-) are G^0 - absorption-% of the investigated element of the solution where such a quantity of addendum was added that its further increase does no more increase the absorption. The representation of the obtained results as relative absorption and tests with the dialysis lead to the following conclusions: 1) in solutions of 2 n - H_2SO_4 , 2 n - $HClO_4$ and their mixtures are at least 4 forms of niobium: cations, neutral complexes, anion-complexes and colloids, 2) the latter are present in all solutions and apparently decline with an increasing concentration of H_2SO_4 . 3) niobium-cations (most likely hydrolysed) exist in solutions of 2 n - $HClO_4$ - 1 N $HClO_4$ + 1 n - H_2SO_4 . 4) Neutral niobium complexes occur within the whole range

Card 3/4

The Application of Ion-Exchange in the Study of the State of the Substance in Solution.

78-14/43

III. The Study of the Forms of Existence of Niobium in Solutions of Both Sulphuric- and Perchloric Acid.

of concentration of sulphuric acid. 5) The anionic niobium-complex formation with H_2SO_4 is weakly expressed in their $<1 n-solu=$ tions. It becomes important with-in the range $H_2SO_4 > 1 n$. 6) The range of existence of the cations, as well as of the neutral and anionic complexes of niobium-95 can be determined by the method of absorption curves, though their composition remains unknown. 7) On the strength of the graphical representation of η_+ , η_- and η in dependence of C_A in the investigated system the range of existence of the colloidal forms of niobium can be determined. 8) The presence of the latter in this system neither influenced the total character of the distribution of cations, nor the neutral or anionic niobium complexes in the investigated solutions. There are 4 figures, 4 tables, and 10 references, 9 of which are Slavic.

SUBMITTED: June 18, 1957.
AVAILABLE: Library of Congress.

Card 4/4

PARAMONOVA, V.I.; SOLNTSEVA, L.V.

Use of ion exchange for studying the state of a substance in a solution. Part 10: Study of complexes of europium and terbium with lactic acid. Radiokhimiia 5 no.5:608-616 '63. (MIRA 17:3)

PARAMONOVA, V.I.; LATYSHEV, Ye.F.

Use of ion-exchange in the study of the state of a substance in solution. Part 6: Study of complex formation by ruthenium (IV) in solutions of hydrochloric and perchloric acids. Radiokhimiia 1 no.4: 458-464 '59. (MIRA 13:1)
(Ruthenium compounds) (Hydrochloric acid) (Perchloric acid)

PARAMONOVA, V.I.; MOSEVICH, A.N.; GORYANIN, N.V.

Adsorption of microquantities of thorium on ash-free, platinized
activated carbon. Radiokhimiia 1 no.4:475-481 '59.

(MIRA 13:1)

(Thorium) (Carbon, Activated)

PARAMONOVA, V.I.; KERETCHUK, A.S.; SHISHLYAKOV, B.A.

Ion exchange applied to the study of the forms of a substance in solution. Part 7: Complex formation between yttrium and monobasic acids. Radiokhimiia 1 no.6:650-659 '59.
(MIRA 13:4)

(Ion exchange) (Yttrium compounds)
(Acids)

S/054/60/000/004/006/015
B004/B056

AUTHOR: Paramonova, V. I.

TITLE: Ion Exchange as a Method of Studying Complex Formations
in Solutions

PERIODICAL: Vestnik Leningradskogo universiteta. Seriya fiziki i khimii,
1960, No. 4, pp. 57-69

TEXT: Proceeding from the equation for the isothermal lines of ion exchange, which was set up by N. P. Nikol'skiy, the author gives a comprehensive report on her published papers dealing with complex bonds in solutions. These experiments were carried out by graphical determination of the instability constant from the adsorption curve. In the dynamic method, solutions with constant ionic strength and equal concentration of the element concerned, but with different concentrations of the complex-forming addendum are sent through columns filled with cation and anion exchangers until the exchangers are saturated. The following relations are written for the adsorption γ : Cationic adsorption $\gamma_+ = c_M/c$; anionic adsorption

Card 1/3

Ion Exchange as a Method of Studying Complex Formations in Solutions

S/054/60/000/004/006/015
B034/B056

$\gamma_- = c_{MA_n} / c$ (c = total concentration of the element in the solution;

c_M = concentration of the element in the solution as a cation; c_{MA_n} = con-

centration of the element in the solution as a saturated anion complex; A = addendum). In the static method, flasks are filled with a constant quantity of cation exchangers, a series of anion exchangers are prepared, and both are filled with solutions of constant ionic strength, constant concentration of the element, and different concentrations of the addendum, and after equilibrium has been established, the concentration of the element is determined. The graphical representation of the function $\gamma = f(\log C_A)$ is described for various modes of complex formation. This method was used to determine the instability constants for yttrium-acetate complexes:

$K_1 = (3.8 \ 2.0) \cdot 10^{-2}$, $K_2 = (1.5 \ 0.3) \cdot 10^{-3}$; yttrium lactic acid complexes:

$K_1 = (2.7 \ 0.3) \cdot 10^{-3}$, $K_2 = (2.0 \ 0.4) \cdot 10^{-5}$, for the zirconium-nitrate complex $[Zr(NO_3)_2]^{2+}$ $K = 0.60 \ 0.4$; for $[Ru(OH)_2Cl_2]^0$ $K = (1.6 \ 0.3) \cdot 10^{-3}$, for $[Ru(OH)_2Cl_4]^-$ $K = (0.7 \ 0.2) \cdot 10^{-3}$. Mention is made of papers dealing

Card 2/3

Ion Exchange as a Method of Studying Complex
Formations in Solutions

S/054/60/000/004/006/015
B004/B056

with the adsorption of uranium on a KY-2 (KU-2) cation exchanger and on
ЭДЭ-10П (EDE-10P), ПЭ-9 (PE-9), and АБ-17 (AV-17) anion exchangers. The
complexes $[UO_2A]^+$, $[UO_2A_2]^0$, and $[UO_2A_3]^-$ were found. Their instability
constants are given in Refs. 34 and 35. Moreover, studies of iron oxalate
complexes and U(VI)-carbonate complexes are referred to . V. V. Fomin and
A. S. Solovkin are mentioned. There are 6 figures and 36 references:
31 Soviet, 10 US, 1 British, 3 Danish, and 2 Swedish.

Card 3/3

NIKOL'SKIY, B.P.; KOLYCHEV, V.B.; GRIKOVICH, A.L.; PARAMONOVA, V.I.

Existence of a uranyl monoacetate complex in solution. Radiokhimiya
2 no.3:330-338 '60. (MIRA 13:10)

(Uranyl compounds)

MOSEVICH, A.N.; PARAMONOVA, V.I.; NIKOL'SKIY, B.P.

Determination of the exchange constants of some anions on
activated platinised carbon. Vest.LGU 15 no.10:93-97 '60.
(MIRA 13:5)

(Ion exchange) (Carbon, Activated)

PARAMONOVA, Y.I.; ALTYNOV, V.I.; KOLYCHEV, V.B.; ZHARKOV, A.V.

Elution curves as a method of studying the state of matter in solution.
Vest. LGU 15 no.16:74-79 '60. (MIRA 13:8)

(Ion exchange) (Niobium--Isotopes)
(Zirconium--Isotopes)

PARAMONOVA, V.I.

Ion exchange as a method of studying complex formation in
solutions [with summary in English]. Vest. LGU 15 no.22:
57-69 '60. (MIRA 13:11)
(Ion exchange) (Complex ions)

S/076/60/034/009/023/041XX
B020/B056

AUTHORS: Mosevich, A. N., Nikol'skiy, B. P., Paramonova, V. I., and
Mordberg, Ye. L.

TITLE: Study of the Adsorption of Ions on Platinized Carbon by
Exchange of the Gaseous Atmosphere

PERIODICAL: Zhurnal fizicheskoy khimii, 1960, Vol. 34, No. 9,
pp. 1900 - 1906

TEXT: A study has been made of adsorption and desorption of Cs^+ and Br^- ions by means of ash-free platinized active carbon from one and the same sample solution by way of an exchange of the gaseous atmosphere above the solution. The adsorption took place mainly from buffer solutions. The production of active carbon and its platinization have already been described in earlier papers (Refs. 7, 14, 15). The carbon used had a burnup of about 50 % and a maximum ash content of 0.05 % by weight. The weight of the platinum layer on the carbon surface amounted to 0.25 % of the weight of the carbon. Carbon fractions with a particle diameter of 1-2 mm were taken. Gamma-active Cs^{134} and Br^{82} tracer isotopes were used. The experi-
Card 1/4

Study of the Adsorption of Ions on Platinized S/076/60/034/009/023/041XX
Carbon by Exchange of the Gaseous Atmosphere B020/B056

ments were carried out in the vessel shown in Fig. 1. Electrolytic hydrogen and atmospheric air freed from CO_2 were used for the purpose. If several reaction vessels are used in conjunction, sample solutions may be taken from one vessel without interrupting the gas flow by the others. The four-vessel system used made it possible to investigate adsorption-desorption changes in the same sample by blowing hydrogen and air alternatively through the system. Table 1 shows the dependence of the cesium quantity adsorbed from a CsNO_3 solution on its concentration, the quantity of cesium adsorbed from the hydrogen atmosphere rising with a rising cesium concentration in the solution. The cesium adsorption is accompanied by an acidification of the solution, which increases with an increasing adsorption of cesium. In the desorption of cesium into the same solution, air instead of hydrogen was used; this desorption was a quantitative one, which indicates the electrostatic character of the cesium adsorption. An alkalization of the solution was found to take place. Table 2 shows the dependence of the adsorption of cesium ions on the pH of the solution for initial cesium concentrations $c_{\text{Cs}} = 0.01 \text{ N}$ and 0.05 N . Tables 3 and 4 show the data on the adsorption of cesium from buffer solutions in the presence of a strange ion (sodium). In the case of a constant Na concentration, the

Card 2/4

Study of the Adsorption of Ions on Platinized Carbon by Exchange of the Gaseous Atmosphere S/076/60/034/009/023/041XX
B020/B056

adsorption of Cs increases with its concentration; if, however, the Cs concentration and the pH of the solution remain constant, and the Na concentration is varied, the adsorption of the Cs ions decreases with sodium concentration. The dependence of the adsorption of the Cs ions on pNa ($= -\log c_{Na}$) is linear under these conditions (Fig. 3). If the

Cs- and Na-ion concentrations are kept on a constant level and the pH of the solution is varied (Fig. 4), the adsorption of Cs increases linearly with the pH. The results obtained by the experiments with respect to the adsorption of the Br^- ions on platinized carbon are given in Table 4, from which it follows that the adsorption of Br^- increases at a low pH. All results obtained indicate the electrostatic character of bromine-ion adsorption on the platinized carbon. N. A. Shilov, A. N. Frumkin, D. N. Strazhesko, B. Ye. Tartakovskaya, S. Petrov, R. Burshteyn, and T. Kiseleva are mentioned. There are 4 figures, 4 tables, and 19 references: 13 Soviet and 6 German.

ASSOCIATION: Leningradskiy gosudarstvennyy universitet im. A. A. Zhdanova
(Leningrad State University imeni A. A. Zhdanov)

Card 3/4

Study of the Adsorption of Ions on Platinized
Carbon by Exchange of the Gaseous Atmosphere

S/076/60/034/009/023/041XX
B020/B056

SUBMITTED: August 2, 1958

Card 4/4

S/076/60/034/012/003/027
B020/B067

AUTHORS: Nikol'skiy, B. P., Paramonova, V. I., and Mosevich, A. N.
TITLE: Determination of the Exchange Constants of Some Cations on Activated Platinized Carbon in Hydrogen Atmosphere
PERIODICAL: Zhurnal fizicheskoy khimii, 1960, Vol. 34, No. 12, pp. 2664-2670

TEXT: According to the papers by A. N. Frumkin and his collaborators (Refs. 1-10) the exchange of two ions between carbon and solution is expressed by the following equation of exchange isothermal lines:

$$g_L^{1/z_L} / g_M^{1/z_M} = K_{L/M} (f_L^{1/z_L} / f_M^{1/z_M}) (c_L^{1/z_L} / c_M^{1/z_M}) \quad (1)$$

where g_L and g_M are the equilibrium amounts of the ions L and M in milliequivalents which are absorbed by 1 g of the absorbent; c_L , c_M , f_L , and f_M are the equilibrium concentrations and activation coefficients of the ions L and M in the solution, z_L and z_M the valences of the ions L

Card 1/4

Determination of the Exchange Constants
of Some Cations on Activated Platinized
Carbon in Hydrogen Atmosphere

S/076/60/034/012/003/027
B020/B067

and M, and $K_{L/M}$ the exchange constant of the ions L and M. The authors examine the applicability of equation (1) and the determination of the exchange constants of some cation pairs on carbon from neutral solutions of their salts. Under the experimental conditions the "apparent" ("concentration") constant $K'_{L/M}$ was obtained from the following equation

$$K'_{L/M} = K_{L/M} (\gamma_L^{1/2} / \gamma_M^{1/2}) \quad (2).$$

The apparent exchange constant $K'_{L/M}$ is bound to remain constant at constant ionic strength of the solution in first approximation. The methods of determining the exchange constant are described in Refs. 16 and 17. The device used for this experiment is illustrated in Fig. 1. The experiments showed that the solution above carbon has to be exchanged seven to eight times in order to obtain a solution with the same composition as the initial solution. The exchange constants of the ion pairs Ba - Cs, Ca - Cs, Mg - Cs, and Ca - Mg were determined, i.e., that of the chlorides at a constant ionic strength of 0.1. The apparent exchange

Card 2/4

Determination of the Exchange Constants
of Some Cations on Activated Platinized
Carbon in Hydrogen Atmosphere

S/076/60/034/012/003/027
B020/B067

constants were calculated from the following equation:

$$K'_{L/M} = (c_L^{1/z_M} \epsilon_L^{1/z_L}) / (c_M^{1/z_L} \epsilon_M^{1/z_M}) \quad (3).$$

The maximum error in calculating the constant is 15-20%. The experimental results are listed in Tables 1-4. It was found that the absorption capacity of carbon is the same for solutions with equal ionic concentrations and any type of cations. In the experiments made by the authors it was between 0.078 ± 0.006 mg/eq/g. The reversibility of the adsorption of these ions on coal can be checked by means of the given exchange constant for the ion pairs Ca - Cs, Mg - Cs, and Ca - Mg. Also the exchange constants of the ion pairs Ba - Ca and Ba - Mg could be calculated from the experimentally determined data for the above ion pairs by using the ratios $K'_{Ba/Ca} = K'_{Ba/Cs} : K'_{Ca/Cs} = 0.86$ and $K'_{Ba/Mg} = K'_{Ba/Cs} : K'_{Mg/Cs} = 1.05$. The values of the exchange constants of the ion pairs which are close to unity indicate the low absorption selectivity of these ions on carbon. This can be explained by the absence of ionogeneous groups on the surface of platinized carbon as well as by the fact that the hydrate shell of the

Card 3/4

Determination of the Exchange Constants
of Some Cations on Activated Platinized
Carbon in Hydrogen Atmosphere

S/076/60/034/012/003/027
B020/B067

ion little influences the adsorption since the surface is covered by cations only to a small extent. The results indicate that the ion-exchange theory can be extended also to the cation-exchange adsorption on the surface of platinized carbon. They also confirm the electrostatic character of this adsorption. A. M. Trofimov and I. A. Tarkovskaya are mentioned. There are 1 figure, 4 tables, and 24 Soviet references.

ASSOCIATION: Leningradskiy gosudarstvennyy universitet im. A.A. Zhdanova
(Leningrad State University imeni A. A. Zhdanov)

SUBMITTED: February 18, 1959

Card 4/4

S/186/61/003/005/010/022
E071/E485

AUTHORS: Paramonova, V.I., Kolychev, V.B., Vikhlyantsev, A.V.

TITLE: A spectrophotometric study of acetate solutions of hexavalent uranium

PERIODICAL: Radiokhimiya, v.3, no.5, 1961, 582-588

TEXT: In conducting this study, the authors attempted to obtain in the wide range of wavelengths the spectrophotometric characteristic of the uranylacetate system and if possible to separate the individual spectra of the complex forms. Absorption spectra of acetate solutions of a constant concentration of uranium $C_U = 0.01$ M and ionic force $\mu = 0.5$ in the visible and ultraviolet range were studied. It was found that in the visible range, the optical density of solutions increases with increasing concentration of acetate ion (CAc^-) but the absolute change in this factor is small. In addition to changes in the optical density, the nature of the spectra also changes with increasing CAc^- , e.g. the main peak of uranyl at 413 m μ is shifted towards the longer wavelength to 418 m μ and peaks at 403 and 425 m μ are smoothed out. An analysis of the spectrographic data and their comparison with the data previously

Card 1/3

✓

A spectrophotometric study ...

S/186/61/003/005/010/022
E071/E485

spectra in the visible range of a salt $\text{UO}_2\text{Ac}_2 \cdot 2\text{H}_2\text{O}$ in various solvents were taken. The spectra had some common features namely: 1) a peak at a wavelength of 430 mμ in acetone, methyl-ethylketone and methyl alcohol solutions and at 428 mμ in propyl alcohol; 2) a peak at 418 mμ in the methylethylketone, propyl alcohol and acetone. On analogy with uranyl nitrate, it is assumed that in these solutions a compound of the type $\text{UO}_2\text{Ac}_2 \cdot n\text{A}$ (where A - organic solvent) is formed. Peaks at 430 and 418 mμ were also found in aqueous acetate solutions of uranyl. These peaks were also found to be characteristic for $[\text{UO}_2\text{Ac}_3]^-$ complex; thus the above peaks are common to both complexes. The absorption spectrum of $\text{UO}_2\text{Ac}_2 \cdot 2\text{H}_2\text{O}$ in tributylphosphate was more complex than in other solvents which is ascribed to a deeper interaction of the solvent with uranyl diacetate. There are 4 figures, 3 tables and 4 references: 3 Soviet-bloc and 1 non-Soviet-bloc.

SUBMITTED: May 31, 1960

Card 3/3

S/186/61/003/005/011/022
E111/E485


AUTHORS: Paramonova, V.I., Kolychev, V.B., Vikhlyantsev, A.V.

TITLE: The possibility of polymerisation and specific absorption of hexavalent uranium in acetate solutions by ion-exchange substances

PERIODICAL: Radiokhimiya, v.3, no.5, 1961, 589-592

TEXT: Previous work by B.P.Nikol'skiy and the present authors (Ref.1: II International Conference UNO, 1958. Paper No. A/conf. 15/p/2204/108 and Ref.2: Radiokhimiya, v.2, 3, 330 (1960)) has shown that in acetate solution the absorption of uranium by cation- and anion-exchange resins follows the ion-exchange law, i.e. there is no specific (non-exchange) absorption of the element or polymerization. This is important when studying complex-formation with the aid of ion-exchange resins. To confirm their results, the authors have compared effects taking place in the solution through contact with both types of ion-exchange materials with the spectrophotometric characteristics of initial and equilibrium solutions. Acetate solutions of hexavalent uranium were prepared with compositions corresponding to conditions for the existence of all its acetate complex forms. The pH was

Card 1/3



The possibility of polymerisation ... S/186/61/003/005/011/022
E111/E485

concentration ratio. Absorption by ion-exchange resins plays the same part as dilution of the solution at constant Ac^- concentration (with the compensation for equilibrium shift for cation-exchange). Thus no polymerisation or specific absorption occurred and the ion exchange process in a uranyl acetate system on KU-2 and AV-17 resins occurs reversibly. There are 2 figures, 3 tables and 2 Soviet-bloc references.

SUBMITTED: May 31, 1960

Card 3/3

PARAMONOVA, V.I.; ZHARKOV, A.V.

Effect of the method used in making a preparation on the state
of microquantities of niobium in nitric acid. Vest. LGU 16
no.4:116-125 '61. (MIRA 14:3)

(Niobium)

PARAMONOVA, V.I.; PLATUNOVA, N.B.

Complex formation of an uranyl ion with salicylic acid. Part 3:
Study of the composition and regions of occurrence of precipitates
formed in salicylate solutions of uranyl. Radiokhimiia 7 no.5:554-
563 '65. (MIRA 18:10)

PARAMONOVA, V.I.; MOSEVICH, A.N.; MA TSY-GUAN [Ma Tz'ŭ-kuang]

Ion exchange used in the study of the state of a substance in solution. Part 11: Complex formation of uranyl with malonic acid. Radiokhimiia 6 no.6:682-694 '64.

(MIRA 18:2)

PARAMONOVA, V.I.; PLATUNOVA, N.B.; BAKLANOVSKY, Ye.).

Complex formation of uranyl ion with salicylic acid. Part 2: Study of complex formation in solution by the ion exchange method. Radiokhimiya 6 no.5:513-518 '64. (MIRA 18:1)

PARAMONOVA, V.I.; PLATUNOVA, N.B.; DUBROVIN, V.S.

Complex formation of uranyl ion with salicyclic acid. Part 1: Complex formation in solution studied by spectrophotometry. Radiokhimiia 6 no.5:505-513 '64. (MIRA 18:1)

PARAMONOVA, V.I.; MOSEVICH, A.N.; IGNAT'YEV, Yu.N.

Chloride anion complex formation of trivalent thallium. Radiokhimiia 6
no.5:527-531 '64. (MIRA 18:1)

NIKOLAYEVA, N.M.; PARAMONOVA, V.I.; KOLYCHEV, V.B.

Studying the hydrolysis of uranyl in nitrate solutions. Izv.
Sib. otd. AN SSSR no.3:70-79 '62. (MIRA 17:7)

1. Institut neorganicheskoy khimii Sibirskogo otdeleniya
AN SSSR, Novosibirsk i Leningradskiy gosudarstvennyy universi-
tet.

PARAMONOVA, V.I.; MOSEVICH, A.N.; ZONOV, Yu.G.

Determination of the exchange constants of some anions on
anion exchangers. Vest. LGU. 18 no.16:115-119 '63.
(MIRA 16:11)

ACCESSION NR: AP4002556

S/0186/63/005/005/0608/0616

AUTHOR: Paramonova, V. I.; Solntseva, L. V.

TITLE: Study of the state of a solute by ion exchange. 10. Study of europium and terbium complexes with lactic acid

SOURCE: Radiokhimiya, v. 5, no. 5, 1963, 608-616

TOPIC TAGS: rare earth separation, europium, terbium, lactic acid, europium complex, terbium complex, cationic complex, neutral complex, complex formation, ion exchange, cation exchanger, europium separation, terbium separation, lactic acid europium complex, lactic acid complex, lactic acid terbium complex, complexing agent

ABSTRACT: The consecutive steps in the formation of complexes in the europium-lactic acid and terbium-lactic acid systems have been studied by the ion-exchange method. The importance of determining the composition and stability of the last complex formed was emphasized, since the common method for separation of rare earths is based on the difference in the stability of their complexes with lactic acid. Experiments were carried out by adsorption of micro quantities of

Card 1/3

ACCESSION NR: AP4002556

Eu¹⁵²⁻¹⁵⁴ or Tb¹⁵³ on KU-2 cation exchanger from a nitric acid solution containing varied concentrations of lactic acid. A static method was employed. After equilibrium was established between ion exchanger and solution, the β -activity of Eu¹⁵²⁻¹⁵⁴ and Tb¹⁵³ tracers remaining in solution was measured. The relative adsorption (γ_+), defined as the ratio of the quantities of element adsorbed in the presence and in the absence of the ligand (lactate ion), was derived from measurements at ligand concentrations (C_A) 10^{-3} — $3.98 \times 10^{-2}M$ for Eu and 8.6×10^{-4} to $4.3 \times 10^{-2}M$ for Tb. Three complexes, $[MA]^{2+}$, $[MA_2]^+$, and $[MA_3]^0$, were detected in solution within C_A ranges determined from plots of $\gamma_+ \times C_A$ or $\gamma_+ \times C_A^2$ versus C_A . The formation of anionic complexes was ruled out in preliminary experiments with anion exchangers. The composition of the two cationic complexes was deduced from the slope of linear plots of $-\log C_A$ versus $\log(\gamma_+/1-\gamma_+)$ or $\log(\gamma_+/1-\gamma_+-\alpha_1)$, where α_1 is the fraction of Eu or Tb, as $[MA]^{2+}$ in solution at equilibrium. The instability constants (K_{1-0} , K_{2-0} , and K_{3-0}) of the three complexes formed from M^{3+} and A^- , and the instability constants (K_{2-1} and K_{3-2}) of MA_2^+ and MA_3^0 formed from MA^{2+} or MA_2^+ and A^- were calculated on the assumption that only the M^{3+} ion was adsorbed on the cation-exchanger. The composition and instability constant of the last complex

Cord 2/3

ACCESSION NR: AP4002556

[MA]⁰ were determined by approximation. Orig. art. has: 4 tables,
5 formulas and 10 figures.

ASSOCIATION: none

SUBMITTED: 18May62

DATE ACQ: 09Jan64

ENCL: 00

SUB CODE: CH, EL

NO REF SOV: 008

OTHER: 002

Card 3/3

KEREYCHUK, A.S.; PARAMONOVA, V.I.

Complex formation of europium with an oxalate ion studied
by the ion exchange method. Radiokhimiia 5 no.4:464-473 '63.
(MIRA 16:10)
(Europium compounds) (Oxalates) (Ion exchange)

PARAMONQVA, V.I.; BARTENEV, S.A.

Complex formation of trivalent iron in oxalate solutions. Zhur.-
neorg.khim. 8 no.2:311-317 F '63. (MIRA 16:5)
(Iron compounds) (Oxalic acid)

PARAMONOVA, V.I.; KEREYCHUK, A.S.; CHIZHOV, A.V.

Ion exchange in the study of the state of a substance in
solution. Part 9: Complex formation of europium with
some dibasic acids. Radiokhimiia 5 no.1:63-73 '63.

(MIRA 16:2)

(Europium compounds) (Acids, Organic)
(Ion exchange)

PARAMONOVA, V.I.; NIKOL'SKIY, B.P.; NIKOLAYEVA, N.M.

Interaction of uranyl nitrate solutions with alkali metal carbonates. Zhur.neorg.khim. 7 no.5:1028-1035 My '62.

1. Leningradskiy gosudarstvennyy universitet, kafedra radiokhimii. (MIRA 15:7)
(Uranyl nitrate) (Alkali metal carbonates)

PARAMONOVA, V.I.; KOLYCHEV, V.B.; VIKHLYANTSEV, A.V.

Spectrophotometric study of hexavalent uranium acetate solutions.
Radiokhimiia 3 no.5:582-588 '61. (MIRA 14:10)
(Uranyl acetate—Spectra)

PARAMONOVA, V.I.; KOLYCHEV, V.B.; VIKHLYANTSEV, A.V.

Possibility of polymerization and specific absorption of
hexavalent uranium in acetate solutions by ion exchangers.

Radiokhimiia 3 no.5:589-592 '61.

(MIRA 14:10)

(Uranyl acetate) (Ion exchange)

PARAMONOVA, Ye. I.

REZIN, M.G.; KROPACHEV, G.P.; BURDE, L.V.; SERGEYEV, S.V.; SEMENOV, G.F.;
OSYKHOVSKIY, I.G.; DROBININ, Ya.I.; KOCHNEV, E.K.; MILAYKINA, R.N.
PARAMONOVA, Ye.I.; LIKHACHEV, M.N.[deceased].

~~REDACTED~~
"Electric engineering." A.S. Kasatkin, M.A. Perekalin. Reviewed by M. G.
Resin and others. Elektrichestvo no.7:94-95 J1 '57. (MLRA 10:8)
(Electric engineering)
(Kasatkin, A.S.) (Perekalin, M.A.)

PARAMONOVA, Yelena Ivanova, assistentka; YANKO-TRINITSKIY, Aleksandr Aleksandro-
vich, doktor tekhn. nauk, prof.

Reduction of external characteristics to asymmetrical form. Izv. vys.
ucheb. zav.; elektromekh. 8 no.5:582-585 '65. (MIRA 18:7)

1. Kafedra teoreticheskoy elektrotekhniki Ural'skogo politekhnicheskogo
instituta (for Paramonova). 2. Zaveduyushchiy kafedroy teoreticheskoy
elektrotekhniki Ural'skogo politekhnicheskogo instituta (for Yanko-
Trinitskiy.

FILIPPOS^{YANTS}, T.T.; POZDNYAKOVA, Z.Ye.; PARAMONOVA, Ye.M.

Use of diatomaceous earths in the process of filtration of
antibiotic culture liquids. Med. prom. 15 no.11:46-50 N '61.
(MIRA 15:6)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov.
(ANTIBIOTICS)

FILIPPOS'YANTS, T.T., PARAMONOVA, Ye.M., PETROV, I.M.

Processing the culture medium in the production of penicillin.
Med.prom. 12 no.12:33-36 D'58 (MIRA 11:12)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov.
(PENICILLIN)
(BACTERIOLOGY--CULTURES AND CULTURE MEDIA)

VOLKOV, Ye.N., kand. tekhn. nauk; STEPCHKOV, K.A., kand. tekhn. nauk; STRASHNENKO, Ye.S.; PYATIGORSKAYA, T.I.; PARAMONOVA, Ye.S.; KOTOVICH, A.G.; NEMTSOVA, A.S.

Production technology, testing and storage of hydrolyzates and protein enrichers from soya. Trudy VNIKOP no.11:66-76 '62. (MIRA 17:9)

STEPCHKOV, K.A.; PARAMONOVA, Ye.S.

Investigating the quality of the soybean-protein food concentrate during storage. Kons.i ov.prom. 15 no.3:28-30 Mr '60.
(MIRA 13:6)

1. TSentral'nyy nauchno-issledovatel'skiy institut konservnoy i ovoshchesushil'noy Promyshlennosti.
(Food, Concentrated--Storage)

25(2)

PHASE I BOOK EXPLOITATION

SOV/2595

Paramonova, Zoya Alekseyevna

Konstruirovaniye valov i osey (Design of Shafts and Axles) Kiyev, Mashgiz, 1958. 142 p. (Series: Biblioteka konstruktora) 10,000 copies printed.

Sponsoring Agency: Nauchno-tekhnikeskoye obshchestvo mashinostroitel'noy promyshlennosti. Kiyevskaya oblastnaya organizatsiya.

Reviewer: A.A. Starosel'skiy, Docent; Ed.: V.I. Leuta, Engineer; Tech. Ed.: Ya.V. Rudenskiy; Chief Ed. (Southern Division, Mashgiz): V.K. Serdyuk, Engineer.

PURPOSE: This book is intended for designers working in the field of machine building.

COVERAGE: The book deals with the basic principles and methods of design of various types of shafts and axles. The subjects discussed include design of large (over 200-300 mm. in diameter)

Card 1/3

Design (Cont.)

SOV/2595

shafts and axles, design of transmission shafts and crankshafts, of shafts subjected to complex and unsteady load conditions, shafts with constantly reversing loads, and statically indeterminate shafts. Information on the selection of shaft materials and the basic methods of mechanical working and heat treatment is also presented. The author thanks M.B. Groman for reviewing the manuscript. There are 25 references, all Soviet.

TABLE OF CONTENTS:

Foreword	3
Introduction	5
I. Designs, Materials, and Heat Treatment of Shafts and Axles	15
1. [Shaft] designs	15
2. Materials and heat treatment	40
II. Shaft and Axle Design	45
Card 2/3	

Design (Cont.)

SOV/2595

1. Loads acting on shafts and axles	46
2. Shaft (axle) design diagrams	57
3. Determining support reactions	62
4. Construction of torque and bending moment diagrams	63
5. Selecting critical sections and determining their stresses	68
6. Determining safety factors	78
7. Criteria in the design of shafts (axles) for static and fatigue strength	89
8. Shaft designing for rigidity	92
9. Procedure in designing straight shafts and axles for strength	101
10. Special features of crankshaft design	102
III. Examples of Design	104
1. Example of axle design	104
2. Example of design of intermediate shaft of a reduction gearing	108
3. Example of design of crankshaft	130

AVAILABLE: Library of Congress

Card 3/3

GO/jb
11-30-59

USSR/Diseases of Farm Animals - Diseases Caused by Bacteria
and Fungi

R

Abs Jour : Ref Zhur Biol., No 5, 1959, 21370

Author : Paramonova, Z.I.

Inst : Kazakh Scientific Research Veterinary Institute

Title : The Biological Diagnosis of Peripneumonia in Cattle
Through Rabbits.

Orig Pub : Tr. Kazakhsk. n.-i. vet. in-ta, 1957, 9, 208-217

Abstract : Rabbits may become infected with the peripneumonia (P)
virus both by animals sick with the natural form of P
and by animals which were experimentally infected by the
P virus. Most of the rabbits infected with the P virus
become clinically sick and the majority of them recover.
An autopsy of sick rabbits and rabbits recovered from P
did not reveal any pathological changes in their organs.

Card 1/2

PARAMONOVA, Zoya Alekseyevna; STAROSEL'SKIY, A.A., dotsent, retsenzent;
~~LEUTA, V.I., inzh., red.;~~ HUDENSKIY, Ya.V., tekhn.red.

[Designing shafts and axles] Konstruirovaniye valov i osei.
Kiev, Gos. nauchno-tekhn. izd-vo mashinostroit.lit-ry, 1958.
142 p. (Axles) (Shafting) (MIRA 12:5)

MAZOV, A.V.; KAZINA, V.S.; PARAMONOVA, Z.D.; PANCHENKO, V.A.

Regeneration of spent alkalies. Khim. i tekhn. topl. i rasel
7 no. 3:26-31 Mr '62. (MIRA 15:2)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut po
pererabotke nefi i gaza i polucheniyu iskusstvennogo zhidkogo
topliva.

(Alkalies)
(Petroleum--Refining)

MAZOV, A.V.; POLUBOYARINOV, G.N. [deceased]; KAZINA, V.S.; PARAMONOVA, Z.D.;
PANCHENKO, V.A.

Deactivation of phenol-containing spent sulfite liquors from
petroleum refineries. Khim.i tekhn.topl.i masel 6 no.4:36-39
Ap '61. (MIRA 14:3)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut po pererabotke
nefti i gazov i polucheniyu iskusstvennogo zhidkogo topliva.
(Petroleum--Refining)(Sewage---Purification)

PARAMONOVA, Z. R.

Paramonova, Z. R. - "The Soils of the 'Borovlyana' Agricultural Experimentation Station, Institute of Socialist Agriculture, Acad Sci Belorussian SSR, and the Dynamics of Soil Formation and Their Fertility." Acad Sci Belorussian SSR. Inst of Socialist Agriculture. Minsk, 1956 (Dissertation for the Degree of Candidate in Agricultural Sciences).

So: Knizhnaya Letopis', No. 10, 1956, pp 116-127

ROD'KIN, I.S., inzh.; PARAMOSHIN, N.T., inzh.

Rates of air leakage through ventilation structures in mines under construction. Shakht.strel. 7 no.5:15-16 My '63. (MIRA 17:4)

1. Ukrainskiy nauchno-issledovatel'skiy institut organizatsii i mekhanizatsii shakhtnogo stroitel'stva (for Rod'kin).
2. Kombinat Donetskshakhtostroy (for Paramoshin).

ROD'KIN, Ivan Stepanovich; YAKUSHIN, N.P., kand.tekhn.nauk, retsentsent;
PARAMOSHIN, N.T., retsentsent; IUGANOV, G.V., kand.tekhn.nauk,
retsentsent; YAROVY, I.M., retsentsent; IGHATENKO, K.P., otv.red.;
ZVORYKINA, L.N., red.isd-va; BERESLAVSKAYA, L.Sh., tekhn.red.

[Ventilation in the course of mine building] Provetrivanie gornyykh
vyrabotok pri stroitel'stve shakht. Moskva, Gos.nauchno-tekhn.izd-vo
lit-ry po gornomu delu, 1960. 163 p. (MIRA 13:7)

1. Nachal'nik laboratorii ventilyatsii Ukrainskogo Nauchno-issledo-
vatel'skogo instituta organizatsii i mekhanizatsii shakhtnogo stroi-
tel'stva (UkrNIIONSHS) (for Yakushin). 2. Nachal'nik sektora tekhniki
bezopasnosti kombinata Stalinskakhtontroy (for Paramoshin).
(Mine ventilation) (Mining engineering)

BLOK, Ye.M.; UBRAGIMOV, M.; KANDALOV, S.A.; KARAKHANOV, M.; PONOMAREV,
A.S.; PARAMOSHKIN, I.M.; YUSUPOV, P.; USTIMENKO, I.L.,
red.-sostavitel'; SULTANOV, G., red.; NADZHIMOV, G., red.;
UMANSKIY, P.A., tekhn.red.

[Achievements of Uzbekistan in forty years of Soviet rule;
statistical collection] Uzbekistan za 40 let Sovetskoi
vlasti; statisticheskii sbornik. Tashkent, Gos.izd-vo
Uzbekskoi SSR, 1958. 134 p. (MIRA 12:11)
(Uzbekistan--Statistical)

F

3714. TRAILER MACHINE FOR HAYTING OR STACKING FIELD STOKES OF
PEAT. Pararski, D.D. (Mekhanizatsiya Trud. i Tysheh. Rabot
(Mechanization of Arduous Work), Jan. 1951, 46).

BUCHATSKIY, Ye.G., inzh.; BUDANOV, V.I., inzh.; PARAMZIN, A.M., inzh.

Structural layouts of one-story industrial buildings for construction in regions with high seismicity. Prom. stroi. 40 [i.e. 41] no.4: 24-29 Ap '63. (MIRA 16:3)

1. Kazakhskiy filial Akademii stroitel'stva i arkhitektury SSSR.
(Earthquakes and building)
(Industrial buildings--Design and construction)

DOLZHENKOV, Andrey Timofeyevich, dotsent, kand.tekhn.nauk; ANDREYEV, Nikolay Nikolayavich, dotsent; DOKUCHAYEVA, Avgusta Paramonovna, dotsent; KOZLOV, Ivan Pavlovich, starshiy prepodavatel'; KISELEV, Ivan Ivanovich, dotsent; PARAMZIN, Ivan Ivanovich, dotsent; TROFIMOV, Vladimir Ivanovich, dotsent; BEREZOVSKAYA, A.L., red.; KRYUKOV, V.L., red.; RAKOV, S.I., tekhn.red.

[Reference manual for young agricultural machinery operators]
Spravochnik molodogo mekhanizatora sel'skogo khoziaistva. Moskva, Vses. uchebno-pedagog.izd-vo Trudrezervizdat, 1959. 69⁴ p.

(MIRA 12:12)

1. Prepodavateli Moskovskogo instituta mekhanizatsii i elektrifikatsii sel'skogo khozyaystva (for Dolzhenkov, Andreyev, Dokuchayeva, Kozlov, Kiselev, Paramzin, Trofimov).

(Agricultural machinery--Maintenance and repair)

PARAMZIN, I. I.

"The Change in Soil Aggregates During Crop Rotation of Nonchernozem Areas Due to the Effects of Agrotechnical Measures." Cand Agr Sci, Moscow Agricultural Acad imeni Timiryazev, Moscow, 1953. (RZhBiol, No 2, Sep 54)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (10)

So: Sum. No. 481, 5 May 55

PARAMZIN, I. I., RUMYANTSEV, V. I.,
SHURYGIN, A. P.

Soils

Dynamics of the structure of soil under crop rotations; correct theory of the working of soil, and the erroneous interpretation of the theory. Pochvovednie no. 4 (1952)

9. Monthly List of Russian Accessions, Library of Congress, August 1952, Uncl.

PARAMZIN, M.

Preparing the working mixture from molasses, carbamide, salt, and chalk for their simultaneous proportioning in feed mixtures from corncobs. Mik.-elev. prom. 29 no.12:16-18 D '63. (MIRA 17:3)

1. Zaveduyushchiy laboratoriyey po kombikormam Glavnogo upravleniya khleboproduktov Moldavskoy SSR.

61011-55

ACCESSION NR: AP5018753

UR/0334/65/000/007/0013/0015
664.7:636.085.002.3

AUTHOR: Paramzin, M. (Head of laboratory)

TITLE: Wastes of the produce-converting industry--in mixed feeds

SOURCE: Makomol'no-elevatornaya promyshlennost', no. 7, 1965, 13-15

TOPIC TAGS: food, agriculture, food requirement, biological product

ABSTRACT: The chemical composition and the nutritive values of some of the dried refuse of canning plants, usable in mixed feeds for various domestic animals, were investigated. The use of the wastes of the canning industry, such as the residues of various fruits and vegetables in an amount of 3-10% for animals is

SIOL-65

ACCESSION NR: AP5018753

of the feed values are taken from the books by I. S. Popov (Prakticheskiye
smyatkiya po kursu kormleniya sel'skokhozyaystvennykh zhivotnykh. Gosizdat
sel'khozlit, 1949) and by M. F. Tomae (Parevarimost' kormov v SSSR, Kolos, 1964).
Orig. art. has: 1 table.

ASSOCIATION: Laboratoriya po kombikormam. Moldavskaya SSR (Feed Research Labora-
tory, Moldavian SSR)

PARAMZIN, M.

Change of the content of carotens and crude protein in grass (hay)
meal during storage. Muk.-elev.prom. 30 no.1:9-10 Ja '64.
(MIRA 17:3)

1. Zaveduyushchiy laboratoriyey po kombikormam Glavnogo upravleniya
khleboproduktov Moldavskoy SSR.

PARAMZIN, M.

"Moldavia--Feeds"

Ground shells for mixed feeds instead of flour. Muk.-elev. prom.
29 no.2:18-19 F '63. (MIRA 16:8)

1. Zaveduyushchiy laboratoriyey po kombinirovannym kormam
Ministerstva proizvodstva i zagotovok sel'skokhozyaystvennykh
produktov Moldavskoy SSR.

(Moldavia--Feeds)